CLAIMS:

1. A light system for a building, comprising:

at least one light collector for collecting ambient light; and

a light guide for conveying light from the collector to a room of a building.

2. The system of claim 1 wherein the system further includes a light junction member, and the light guide comprises a first light guide extending between the collector and the junction member, and a second light guide extending from the junction member to the room of the building.

3. The system of claim 1 wherein the light collector comprises a dish reflector for reflecting ambient light towards a focal point, a secondary reflector at the focal point for reflecting light into the first light guide.

4. The system of claim 1 wherein a plurality of said light collectors are provided, each collector being connected to the junction member by a respective first light guide.

5. The system of claim 2 wherein a plurality of said second light guides extend from the light junction member for conveying light from the junction member to the at least one room of the building.

6. The system of claim 2 wherein a plurality of rooms of the building are illuminated by the lighting system and a plurality of second light guides extend from the light junction member to each room of the building.

7. The system of claim 2 wherein the junction means comprises a vessel having a highly reflective inner surface so that light which is conveyed into the vessel by the first light guides reflects within the vessel until the light enters one of the seconde waveguides and is conveyed to the room to illuminate the room.

8. The system of claim 7 wherein the vessel is spherical and lined with a good reflective.

9. The system of claim 7 or 8 wherein the vessel includes intensity sensors for monitoring the intensity of prescribed wavelengths of light within the vessel, and control means responsive to the energy sensor for controlling at least one light source for supplying light into the vessel to maintain the light in the vessel as substantially white light so that white light is supplied to the rooms by the second waveguides.

10. A lighting system for a building having a plurality of rooms, including:

a plurality of light collectors for collecting ambient light, each collector comprising a reflector for reflecting light towards a point;

a light guide having a first end located at the point for receiving light from the reflect;

a light accumulating vessel having a reflective internal surface, the vessel being connected to each of the light guides so that light reflected into the light guides is conveyed to the vessel and propagates within the vessel by reflection from the internal surface of the vessel; and

a plurality of second light guides extending from the vessel to rooms of the building for conveying light from the vessel to the rooms of the building to illuminate the rooms.

11. The system of claim 10 wherein the reflector is a parabolic dish-shaped reflector and the focal point the focal point of the parabolic reflector at which the end of the first light guide is located.

12. They system of claim 10 wherein the reflector is a parabolic reflector and the collector further includes a concave focusing mirror at the focal point of the parabolic reflector for reflecting the light to a further point at which the first end of the first light guide is located for conveying the light to the vessel.

13. The system of claim 10 wherein the vessel includes a plurality of intensity sensors for measuring the intensity of light within the vessel at various wavelengths, control means connected to the intensity sensor, a light source for supplying light into the vessel connected to the control means so that the control means can control the light source to provide illumination into the vessel for maintaining the light within the vessel substantially as white light so that white light is conveyed by the second waveguides to the rooms of the building.

14. The system of claim 10 wherein the light source is a fixed light source connected to the vessel or a light source remote from the vessel and coupled to the vessel by a light guide.

15. A lighting system for a building having a plurality of rooms, including:

a plurality of light collectors for collecting ambient light, each collector comprising a dish reflector for reflecting light towards a focal point and a secondary reflector at the focal point;

a light guide associated with each of the collectors for receiving light reflected by the secondary

reflector;

a light accumulating vessel having a reflective internal surface, the vessel being connected to each of the light guides so that light reflected into the light guides from the secondary reflectors is conveyed to the vessel and propagates within the vessel by reflection from the internal surface of the vessel; and

a plurality of second light guides extending from the vessel to rooms of the building for conveying light from the vessel to the rooms of the building to illuminate the rooms.

16. The system of claim 15 wherein the vessel includes a plurality of intensity sensors for measuring the intensity of light within the vessel at various wavelengths, control means connected to the intensity sensor, a light source for supplying light into the vessel connected to the control means so that the control means can control the light source to provide illumination into the vessel for maintaining the light within the vessel substantially as white light so that white light is conveyed by the second waveguides to the rooms of the building.

17. The system of claim 16 wherein the light source is a fixed light source connected to the vessel or a light source remote from the vessel and coupled to the vessel by a light guide.

18. The system of claim 15 wherein the dish reflectors and the secondary reflectors reflect white light to their respective waveguides so that wavelengths outside the normal visible spectrum are not supplied to the vessel.

19. The system of claim 16 wherein infrared radiation is reflected to an ancillary light guide or otherwise collected so that the infrared radiation can be used as a heat source to provide supplemental heating to the building or for water heating.